REMARKS

Claims 1-11 are all the claims pending in the application.

As a preliminary matter, Applicant thanks the Examiner for acknowledging receipt of the references filed with the Information Disclosure Statement on October 14, 2003.

Turning to the merits of the Office Action, the Examiner maintained the previous rejections, finding Applicant's arguments unpersuasive. In particular, claims 1-3, 6-8, and 11 stand rejected under 35 U.S.C. § 102(e) and claims 4, 5, 9, and 10 under 35 U.S.C. § 103(a). Applicant respectfully traverses these rejections and respectfully requests the Examiner to *carefully reconsider* these rejections in view of the comments, which follow.

To begin, Applicant respectfully incorporates by reference arguments submitted in the Amendment under 37 C.F.R. § 1.111 filed on April 30, 2004.

Claims 1-3 and 6-8 are rejected under 35 U.S.C. § 102(e) as being anticipated by Williams, A.; MPOA: routing multiple protocols over ATM. IP Routing Versus ATM Switching-What Are the Real Issues? (Digest No: 1997/334), IEE Colloquium on, 19 Nov. 1997, (hereinafter "Williams"). Of these claims, only claims 1 and 6 are independent.

To be an "anticipation" rejection under 35 U.S.C. § 102, the reference must teach **every element and recitation of the Applicant's claims**. Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior art. Thus, the reference must clearly and unequivocally disclose every element and recitation of the claimed invention.

Claim 1 recites a number of unique features not found in the cited reference. For example, claim 1 recites: "determining by an MPOA server which has received an address resolution request packet from an MPOA client whether or not said address resolution request packet is to be forwarded to another MPOA server or another MPOA client based on layer 3 packet filter information."

The Examiner asserts that claim 1 is directed to a method for transferring MPOA packets in an ATM network and is anticipated by Williams. Applicant submits that the unique combination of claim 1 including at least the claimed step of determining whether to forward or not to forward an address resolution request packet to another MPOA server or another MPOA client based on layer 3 packet filter information is absent from the Williams reference. The Examiner alleges that Williams's teaching of MPOA server distributing broadcast and multi-cast frames to the appropriate network ports is equivalent to determining whether or not to forward an address resolution request, as set forth in claim 1 (see page 3 of the Office Action). Applicant respectfully disagrees with the Examiner.

In response to Applicant's arguments, the Examiner alleges that it is clear that address resolution is encapsulated in the IP frame and that it is inherent that if the system determines where to forward to, clearly it is determining where not to forward to (pages 9-10 of the Office Action). First, Applicant respectfully submits that claim 1 recites: **"whether to forward or not"** and not **"where to forward or not"**. That is, it is an aspect of the present invention, as set forth in claim 1, to prevent the establishment of undesirable shortcut path (preventing security breaches) for MPOA packets in ATM network. In other words, undesired packets are discarded and <u>not</u>

forwarded anywhere. Williams, on the other hand, teaches determining where to forward MPOA

packet. Williams does not even remotely suggest determining whether to forward the packet at

all.

For example, in the background of invention, the source layer 3 address of a data packet

is not included in the MPOA address resolution request packet. As a result, the MPOA server

cannot determine a shortcut is undesirable. In other words, conventional MPOA techniques are

not able to prevent an unauthorized data packet from a subnet X to reach a subnet C. Williams

teachings are very similar to the teachings in the background of the invention. In particular, the

purpose of the Williams is to explain the conventional MPOA over an ATM network. That is,

William's simply describes the MPOA protocol without any modifications or improvements.

Accordingly, it is very similar to the background of the invention section in the specification.

To begin, Williams teaches an edge switch of the client, which receives an IP frame with

the appropriate source and destination addresses (the address of the client and the address of the

client to whom the data is to be forwarded). Based on the destination IP address, the edge switch

will need to make a call across the ATM fabric to the edge device that connects to the destination

IP address (page 2/4, ¶ 2). In other words, the server will generate a conventional MPOA

address resolution request packet having a destination IP address only. In Williams, the function

of the MPOA client is embedded in the edge switches (page 2/4, ¶3).

That is, in Williams, the MPOA client will create a MPOA packet having only the

destination IP address. For example, Williams further teaches mapping IP destination address to

a proxy ATM destination address (page 2/4, ¶¶ 3 and 4). In Williams, a conventional technique

of MPOA address resolution will take place. In other words, in Williams, a destination IP

address is used to create an MPOA address resolution request packet to make a call to the edge

device (destination client) that connects to the destination IP client to map the IP address to an

ATM destination address.

In Williams, however, there is no extension to the MPOA address resolution request

packet, which has a source address. Accordingly, the MPOA server cannot determine whether

the connection is permitted for the MPOA server never receives a source address, and as a result

undesired connections may be established. That is, Williams simply maps the IP address to an

ATM address but in William's there is no determination as to whether or not to forward the

request. William only teaches forwarding the address resolution request to the IP destination

address to map it to an ATM address. Williams does not disclose that the MPOA server will first

determine whether the request should be forwarded or perhaps not forwarded (discarded).

Williams only teaches determining where to forward the request and not whether to forward it at

all.

For at least these exemplary reasons, Applicant respectfully submits that independent

claim 1 is patentably distinguishable from Williams. Applicant therefore respectfully requests

the Examiner to reconsider and withdraw this rejection of independent claim 1. Also, Applicant

respectfully submits that claims 2 and 3 are allowable at least by virtue of their dependency on

claim 1.

In addition, with respect to claim 2, Applicant respectfully submits that Williams teaches

forwarding to the alleged MPOA server (page 3 of the Office Action) IP destination address only

for address resolution as explained in detail on page 2/4, ¶¶ 3-4 and as further evidenced by page

2, ¶ 8, where Williams only talks about an "IP address" and not addresses. Applicant

respectfully points out that the reference must clearly and unequivocally disclose each and every

element in the claim. Williams does not disclose, even implicitly as alleged by the Examiner, the

source layer 3 address being added as an extension to the MPOA address resolution request

packet. In fact, Williams does not address the structure of the MPOA address resolution request,

nor does it teach any extensions to the MPOA address resolution request packet. For at least this

additional exemplary reason, Applicant respectfully submits that claim 2 is patentably

distinguishable from Williams.

Next, Applicant respectfully traverses this rejection with respect to independent claim 6.

Claim 6 recites a number of unique features not found in the reference cited by Examiner. For

example, claim 6 recites determining based on layer 3 packet filter information, whether or not

the address resolution request packet is to be forwarded. This exemplary recitation is similar to

the exemplary recitation argued above with respect to claim 1. Therefore, arguments presented

with respect to claim 1 are respectfully submitted to apply with equal force here.

Moreover, Applicant respectfully points out that if as alleged by the Examiner MPOA

server or Route Server is similar to the server as set forth in claim 1, then Williams fails to

disclose any section or portion of the server. It is respectfully pointed out that William's MPOA

server is a black box. Williams is concerned with theoretical workings of the system and as such

only talks about the interrelationship and functionality of the Route Server but fails to disclose a

single component of the server. Surely, Williams fails to disclose clearly and unequivocally a

number of requirements of claim 6. Therefore, for at least these exemplary reasons, therefore, Applicant respectfully requests the Examiner to withdraw this rejection of independent claim 6 and its dependent claims 7 and 8.

Finally, independent claim 11 recites a unique combination of features including: "determining by an MPOA server which has received an address resolution request packet which includes a source layer 3 address from an MPOA client whether or not said address resolution request packet is to be forwarded to another MPOA server or another MPOA client based on layer 3 packet filter information, wherein said source layer 3 address is held in an extension of said address resolution request packet so as to allow an MPOA server which is incapable of performing said determination step to communicate said address resolution request packet with said MPOA client."

The Examiner alleges that inclusion of the source address is implicit and for support cites Williams' teaching of forwarding a conventional IP frame from the computer to the edge switch. Applicant respectfully disagrees. Applicant respectfully submits that this rejection is technically inaccurate for at least the following reasons. Williams teaches a desktop computer forwarding a conventional IP frame not a MPOA address resolution request to the edge switch, where "MPOA client function is embedded in the edge switch". This edge switch generates an MPOA address resolution request based on IP destination address. Moreover, in Williams, there is no teachings or suggest of an extension of said address request resolution packet.

For at least these exemplary reasons, Applicant respectfully submits that independent

claim 1 is patentably distinguishable from Williams. Applicant therefore respectfully requests

the Examiner to reconsider and withdraw this rejection of independent claim 11.

Claim Rejections under 35 U.S.C. § 103

Claims 4, 5, 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over

Williams in view of U.S. Patent No. 5,467,349 to Huey et al. (hereinafter "Huey"). Applicant

respectfully traverses this rejection with respect to the dependent upon claim 1, claims 4 and 5

and dependent upon claim 6, claims 9 and 10. Applicant has already demonstrated that Williams

does not meet all the requirements of independent claims 1 and 6. Huey is relied upon only for

its teaching of its error processing and filtering. Huey has nothing to do with MPOA packets.

For example, Huey does not disclose determining by an MPOA server whether or not the address

resolution request packet is to be forwarded, let alone based on layer 3 packet filter information,

as recited in claims 1 and 6.

Clearly, Huey does not compensate for the above-identified deficiencies of Williams.

Together, the combined teachings of these references would not have (and could not have) led

the artisan of ordinary skill to have achieved the subject matter of claims 1 and 6. Since claims

4-5 and 9-10 dependent upon claims 1 and 6, respectively, they may be patentable at least by

virtue of their dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed

to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is

kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue

Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any
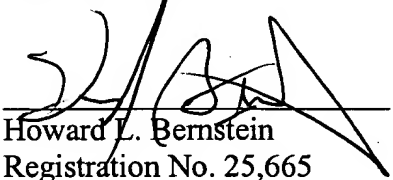
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